Appln No. 09/863,778
Reply to Office Action of April 8, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 11. (Cancelled)

12.   (Currently amended) A method for determining the date and time comprising:

utilizing a ~~"superluminal"~~ wavepacket transmitter to measure the oscillation of the group velocity over a specified period of time, determining the Doppler redshift direction from said group velocity oscillation, and comparing said Doppler redshift direction verse the Earth's motion

wherein the ~~"superluminal"~~ wavepacket transmitter comprises:

a transmission source for generating a wavepacket, the wavepacket comprising a wavefront component;

a signal controller for generating a signal pulse;

a signal receiver for receiving the signal pulse;

a selective-transmission device comprising a quantum barrier defining a transmission distance, said selective-transmission device being in signal communication with the transmission source, the signal controller, and the receiver such that the wavepacket is transmitted to the barrier and the wavefront component of the wavepacket tunnels through the barrier and across the transmission distance to the receiver ~~causing "superluminal" group velocities~~; and

a monitor in signal communication with the receiver for determining the centroid time for each of a plurality of wavepacket peaks; and

an analyzer for computing the vector group velocity of light from the measured centroid times.

-2-

Appln No. 09/863,778
Reply to Office Action of April 8, 2005

13.   (Cancelled)

14.   (Currently amended) A method for determining the time and date comprising:

utilizing a "superluminal" wavepacket transmitter to compare the direction of the cosmic microwave background Doppler red shift relative to the Earth's motion;

wherein the comparison includes determining the direction of the cosmic microwave background Doppler redshift by using the "superluminal" wavepacket transmitter to measure the oscillation of group velocity over a specified period of time and determining the group velocity minimum

wherein the "superluminal" wavepacket transmitter comprises:

a transmission source for generating a wavepacket, the wavepacket comprising a wavefront component;

a signal controller for generating a signal pulse;

a signal receiver for receiving the signal pulse;

a selective-transmission device comprising a quantum barrier defining a transmission distance, said selective-transmission device being in signal communication with the transmission source, the signal controller, and the receiver such that the wavepacket is transmitted to the barrier and the wavefront component of the wavepacket tunnels through the barrier and across the transmission distance to the receiver causing "superluminal" group velocities; and

a monitor in signal communication with the receiver for determining the centroid time for each of a plurality of wavepacket peaks; and

an analyzer for computing the vector group velocity of light from the measured centroid times.

15.   (Currently amended) A "superluminal" wavepacket transmission device, comprising:

-3-

a transmission source for generating a wavepacket, the wavepacket comprising a wavefront component;

a signal controller for generating a signal pulse;

a signal receiver for receiving the signal pulse;

a selective-transmission device comprising a quantum barrier defining a transmission distance, said selective-transmission device being in signal communication with the transmission source, the signal controller, and the receiver such that the wavepacket is transmitted to the barrier and the wavefront component of the wavepacket tunnels through the barrier and across the transmission distance to the receiver causing "superluminal" group velocities; and

a monitor in signal communication with the receiver for determining the centroid time for each of a plurality of wavepacket peaks; and

an analyzer for computing the vector group velocity of light from the measured centroid times;

wherein the analyzer further determines the cosmic microwave background Doppler red shift direction by monitoring the group velocity tunneling time oscillation over a specified period of time and determining the group velocity tunneling time minimum.

16.   (Currently amended) The "superluminal" wavepacket transmission device as described in claim 15, wherein the analyzer further determined the date and time by computing the cosmic microwave background Doppler red shift direction relative to the Earth's motion.

17.   (Cancelled)

18.   (Currently amended) A "superluminal" wavepacket transmission device, comprising:

a transmission source for generating a wavepacket, the wavepacket comprising a wavefront component;

-4-

Appln No. 09/863,778
Reply to Office Action of April 8, 2005

a signal controller for generating a signal pulse;

a signal receiver for receiving the signal pulse;

a selective-transmission device comprising a quantum barrier defining a transmission distance, said selective-transmission device being in signal communication with the transmission source, the signal controller, and the receiver such that the wavepacket is transmitted to the barrier and the wavefront component of the wavepacket tunnels through the barrier and across the transmission distance to the receiver ~~causing "superluminal" group velocities~~; and

a monitor in signal communication with the receiver for determining the centroid time for each of a plurality of wavepacket peaks; and

an analyzer for computing the vector group velocity of light from the measured centroid times;

wherein the selective transmission device is rotatable about an axis such that the direction of the wavepacket transmission may be shifted about the axis; and

wherein the analyzer further determines the cosmic microwave background Doppler red shift direction by monitoring the group velocity tunneling time oscillation as the direction of the wavepacket transmission is shifted about the rotatable axis and determining the group velocity tunneling time minimum.

-5-